

PATENT ABSTRACTS OF JAPAN

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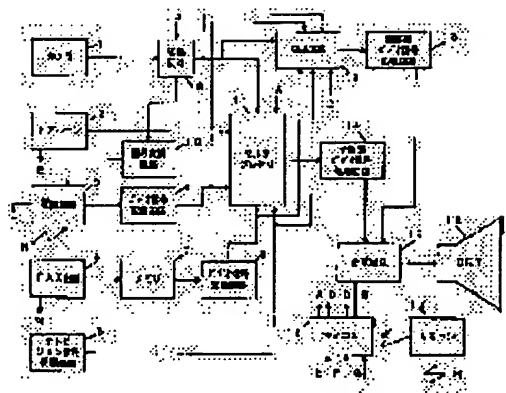
(54) TELEVISION RECEIVER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a receiver serving as a function for a monitor camera, a video telephone and a facsimile receiver while enjoying a television broadcasting image by a television receiver.

SOLUTION: When a video signal from the monitor camera of a doorphone 2, still image of a telephone line 3, FAX data from a FAX line 4 and the TV signal of the TV broadcasting from a TV signal receiving circuit 5 are supplied to a multiplexer 11 and a change-over circuit 12 so as to display the respective video signals by quadrisecting a screen in a television receiver, the multiplexer 11 is controlled by a control signal from a microcomputer 16 and the respective video signals are displayed at the previously decided positions in the quadripartite screen.

Besides, a master screen is selected by the change-over circuit 12 and a slave screen is selected by the multiplexer 11 so that display is executed. A remote controller 17 serves as the function for the slave set of a telephone set and a telephone call can be made while watching a TV receiver.



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CLAIMS

[Claim(s)]

[Claim 1] In the television receiver which two or more video signals are inputted and can display the video signal on coincidence The output from a video camera, and the output from the surveillance camera for the doors which it had with the interphone of the door, The output which changed into the video signal the telephone other party's still picture, and the still picture sent among the telephone lines to which voice is sent, The output which changed into the video signal the facsimile data obtained from a facsimile circuit, The source of a video signal which has the output of the receiving circuit which receives a television signal, The means for switching which chooses and switches in order to display one source of a video signal of arbitration as a parent screen among said sources of a video signal, A selection means to choose the source of a video signal of arbitration among said sources of a video signal in order to display at least one as a child screen, The television receiver which consists of a synthetic means to compound alternatively the video signal acquired from said means for switching, and the video signal acquired from said selection means, and a display means to display the video signal acquired from this synthetic means.

[Claim 2] The television receiver which comes to have the memory which once memorizes said facsimile data in a television receiver according to claim 1.

[Claim 3] It is the television receiver which this remote control equipment transmits voice to said telephone line, and comes to have a function as a cordless handset of telephone by equipping said television receiver with the remote control equipment which performs various control in a television receiver according to claim 2.

[Claim 4] The television receiver which it comes to display on the location beforehand decided as a child screen in the television receiver according to claim 3 when inputted from either of the video signals from said surveillance camera, the telephone line, and facsimile.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the television receiver which enabled it to display altogether the image from the surveillance camera of the still picture and facsimile data of the TV phone of the telephone line, and a door horn etc. on a screen especially about a television receiver.

[0002]

[Description of the Prior Art] while transmitting not only voice but an image and looking at each other face in telephone in recent years -- it can talk -- **** -- a thing called a TV phone [like] exists. Moreover, it has a surveillance camera other than the interphone of the door as an easy security system also for ordinary homes by development of a home electronics device, and there is a thing it enabled it to see also in a house in a caller's appearance etc.

[0003] Furthermore, in order to receive facsimile data etc., it enables it to see what was outputted by the facsimile receiver in paper.

[0004] By the way, these things are an image or data, and when seeing these, they have the problem that it will not become if all are kicked according to each with each monitor. It is very efficient if this image or data can be especially seen with the same monitor. Then, thinking can display an image and it should just carry out the monitor of what is always attracting attention. A television receiver is raised as optimal thing as this monitor.

[0005] However, generally, a television receiver receives and enjoys television broadcasting and may always give displeasure to what expects television broadcasting to utilize as other monitors on the contrary.

[0006]

[Problem(s) to be Solved by the Invention] This invention aims at offering the television receiver which has the function of a surveillance camera, a TV phone, and a facsimile receiver, being made in view of the point mentioned above, and enjoying the image of television broadcasting with a television receiver.

[0007]

[Means for Solving the Problem] In the television receiver with which two or more video signals are inputted, and, as for this invention, can display the video signal on coincidence The output from a video camera, and the output from the surveillance camera for the doors which it had with the interphone of the door, The output which changed into the video signal the telephone other party's still picture, and the still picture sent among the telephone lines to which voice is sent, The output which changed into the video signal the facsimile data obtained from a facsimile circuit, The source of a video signal which has the output of the receiving circuit which receives a television signal, The means for switching which chooses and switches in order to display one source of a video signal of arbitration as a parent screen among said sources of a video signal, A selection means to choose the source of a video signal of arbitration among said sources of a video signal in order to display at least one as a child screen, It is the television receiver which consists of a synthetic means to compound alternatively the video signal acquired from said means for switching, and the video signal acquired from said selection means, and a

2 or more
VS

1 switch
1 selection

1 synthetic
means

display means to display the video signal acquired from this synthetic means.

[0008] Moreover, the television receiver of this invention is equipped with the memory which once memorizes said facsimile data.

[0009] Furthermore, the television receiver of this invention was equipped with the remote control equipment which performs various control, and this remote control equipment transmitted voice to said telephone line, and is equipped with the function as a cordless handset of telephone. *Good legs handset*

[0010] And if the television receiver of this invention is inputted from either of the video signals from said surveillance camera, the telephone line, and facsimile, it will come to display it on the location beforehand decided as a child screen. *X*

[0011]

[Embodiment of the Invention] Hereafter, the example of this invention is explained, referring to a drawing. Drawing 1 is the block diagram of the example of this invention, and 1 ** the operator who is operating the television receiver. The door horn equipped with the video camera for transmitting a still picture to a telephone, and the surveillance camera with which 2 has been arranged outside the front door, The telephone line to which 3 transmits or receives voice and a still picture, the FAX circuit in which 4 transmits or receives facsimile (it is called Following FAX) data, The television receiving circuit which receives the television signal from an antenna or a video terminal which 5 does not illustrate, The video signal conversion circuit from which 6 changes the still picture from the telephone line 3 into a video signal, The memory 7 once remembers the FAX data from the FAX circuit 4 to be, the video signal conversion circuit from which 8 changes FAX data into a video signal, Since the output of a camera 1 is outputted to the telephone line 3, the change-over circuit which chooses whether 9 displays the output of a camera 1 with the telephone line 3 or a television receiver, and 10 are signal modulation circuits which modulate a signal.

[0012] Moreover, the change-over circuit which 11 chooses a multiplexer, and 12 chooses each video signal, and is outputted only one, The parent screen video signal processing circuit which processes the video signal with which 13 is outputted from the change-over circuit 12 as a parent screen, The child screen video signal processing circuit which outputs the video signal with which 14 is outputted from a multiplexer 11 as a child screen, The synthetic circuit where 15 compounds the video signal of a parent screen and a child screen, and the microcomputer (henceforth a microcomputer) 17 with which 16 performs various control of the television television inside of a plane transmit an operator's voice to the telephone line 3. The remote control (henceforth remote control) transmitter which transmits various control commands to a microcomputer 16, and 18 are a cathode-ray tube (it is called Following CRT). *multiplex*

[0013] Next, actuation is explained. First, the case where make the screen top of a television receiver quadrisection and each image is seen from the condition of having received the television signal is explained. Usually, the television receiver shows the television signal to the limit of a screen like (b) of drawing 2. That is, a television signal is received in the television signal receiving circuit 5, and a video signal is supplied to the change-over circuit 12. At this time, as for the change-over circuit 12, the change-over signal C has chosen the video signal from the television signal receiving circuit 5 with the microcomputer 16. Moreover, the synthetic circuit 15 is made as [choose / with the control signal B from a microcomputer 16 / only the output of a parent screen]. In this condition, the television signal of a desired channel is receivable with channel control etc. at the control signal from remote control 17. *multiplex*

[0014] Thus, when chosen, from the change-over circuit 12, the video signal from the television signal receiving circuit 5 is supplied to the parent screen video signal processing circuit 13, and is inputted into the synthetic circuit 15. And the synthetic circuit 15 supplies the video signal of a parent screen to CRT18 as it is, and displays it like drawing 2 (b).

[0015] Thus, when there are an output from the door horn 2, an output from the telephone line 3, and an output from the FAX circuit 4 while receiving, viewing and listening to a television signal with the television receiver for example, it operates like next.

[0016] That is, when there is an output from the door horn 2, the video signal of the output is inputted into a multiplexer 11 and the change-over circuit 12. Moreover, when there is an output from the telephone line 3, it is inputted into the video signal conversion circuit 6, and the data of a still picture are

changed into a video signal, and are inputted into a multiplexer 11 and the change-over circuit 12. On the other hand, the facsimile data from the FAX circuit 4 are once memorized by memory 7, read the memorized data, are changed into a video signal by the video signal conversion circuit 8, and are inputted into a multiplexer 11 and the change-over circuit 12. Similarly, the video signal from the television signal receiving circuit 5 is also inputted into a multiplexer 11 and the change-over circuit 12. [0017] Thus, each video signal is inputted into a multiplexer 11 and the change-over circuit 12. Furthermore, the information E, F, and G which shows that there is an output from the door horn 2, the telephone line 3, and the FAX circuit 4 is inputted into a microcomputer 16. In response to this information, like (b) of drawing 2, a microcomputer 16 makes a microcomputer 16 quadrisection on a screen so that all screens can be seen.

[0018] First, a microcomputer 16 outputs the change-over signal C to the change-over circuit 12, and any signal is made not to carry out a selection output. And it controls to output each video signal to the location where the multiplexer 11 was set up for four screens by the control signal A. To the synthetic circuit 15, it controls so that a control signal B chooses only the output from the child screen video signal processing circuit 14.

[0019] Consequently, as shown in (b) of drawing 2, the output of a multiplexer 11 chooses and incorporates each video signal in order, supplies the compounded video signal to the child screen video signal processing circuit 14, and outputs it to the synthetic circuit 15. And the output from the synthetic circuit 15 will be supplied and displayed on CRT18.

[0020] If it does in this way, he can also watch broadcast of a television signal and the output of the from else can also be further seen by coincidence.

[0021] Moreover, when you telephone by the telephone line 3, remote control 17 contained the microphone as a cordless handset of telephone, and is equipped with the function to transmit the voice to the telephone line 3 by the FM wave H, and, thereby, it can talk over the telephone. And a picture of the operator of a television receiver can be taken from a camera 1, and the still picture can also be transmitted through the telephone line 3. In that case, it becomes irregular so that the video signal of a camera 1 may be supplied to the signal modulation circuit 10 in the change-over circuit 9 and a still picture can be transmitted by the telephone line 3 with the change-over signal D from a microcomputer 16, and it outputs to the telephone line 3. If it does in this way, voice and a still picture can be transmitted. In addition, it can also switch so that the output from a camera 1 can be seen with a television receiver in the change-over circuit 9.

[0022] What is necessary is just to display like (Ha) of drawing 2 in the example mentioned above, for example, when there is only one output although all information was projected on the quadrisection screen. That is, when there is only an output from the FAX circuit 4 now, a microcomputer 16 receives the information G on the existence of the output. Then, a microcomputer 16 chooses the video signal of the output from delivery and the FAX circuit 4 as a multiplexer 11, outputs a control signal A to it, and supplies it to the child screen video signal processing circuit 14. On the other hand, the change-over circuit 12 supplies a video signal to the parent screen video signal processing circuit 13 as with the condition of having chosen the output from the television signal receiving circuit 5. A microcomputer 16 is compounded so that a child screen may be inserted into a parent screen by the control signal B in the synthetic circuit 15, and it outputs a video signal to CRT18. Thereby, the output from the FAX circuit 4 can be seen.

[0023] If it supervises whether a microcomputer 16 has which output if it does in this way and there is the output, it can display as a child screen on a screen automatically. Moreover, if the location displayed by the output on a child screen is beforehand set up with a setup, for example, a location like (b) of drawing 2, it can recognize immediately which output it is. Moreover, the approach of displaying for every child screen by onscreen display etc. may be used.

[0024] Furthermore, the exchange with this parent screen and a child screen is also chosen with remote control 17, command information is given to a microcomputer 16, a microcomputer 16 outputs various kinds of control signals which control the change-over circuit 12, a multiplexer 11, and the synthetic circuit 14, and exchange can also realize it. Moreover, it cannot be overemphasized that it is also

possible to display it to the limit of a screen, using the video signal of a child screen as a parent signal.
[0025] Moreover, facsimile data are once memorized for making it print, once seeing FAX data on a screen in memory 17.

[0026] In addition, although the display of four screens explained in the example of this invention, if screen separation is increased, it will be needless to say that many information from the outside can be inputted and displayed so much. The technique of such screen separation is a well-known technique, as shown in JP,5-23552,B (H04N5/45).

[0027]

[Effect of the Invention] Without spoiling the condition of viewing and listening to the television broadcasting usual with a television receiver according to this invention, if the input of the still picture of a telephone, the data of FAX, the surveillance camera of the door, etc. enters, all can be seen automatically. Moreover, since it has decided which information goes into the display position where it was beforehand decided on the screen, it tends to become clear which information is inputted. Furthermore, after once carrying out memory of the FAX data and checking them in the pictures, only the case of being required is printable.

[Translation done.]

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TECHNICAL FIELD

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PRIOR ART

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[0005] However, generally, a television receiver receives and enjoys television broadcasting and may always give displeasure to what expects television broadcasting to utilize as other monitors on the contrary.

[Translation done.]

JAPANESE

[JP,09-149333,A]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE
INVENTION TECHNICAL PROBLEM MEANS DESCRIPTION OF DRAWINGS DRAWINGS

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TECHNICAL PROBLEM

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The block diagram showing the example of this invention.

[Drawing 2] Drawing showing the display condition of the screen of the example of this invention.

[Description of Notations]

- 1 Camera
- 2 Door Horn
- 3 Telephone Line
- 4 FAX Circuit
- 5 Television Signal Receiving Circuit
- 6 Video Signal Conversion Circuit
- 7 Memory
- 8 Video Signal Conversion Circuit
- 9 Change-over Circuit
- 10 Signal Modulation Circuit
- 11 Multiplexer
- 12 Change-over Circuit
- 13 Parent Screen Video Signal Processing Circuit
- 14 Child Screen Video Signal Processing Circuit
- 15 Synthetic Circuit
- 16 Microcomputer
- 17 Remote Control
- 18 CRT

[Translation done.]

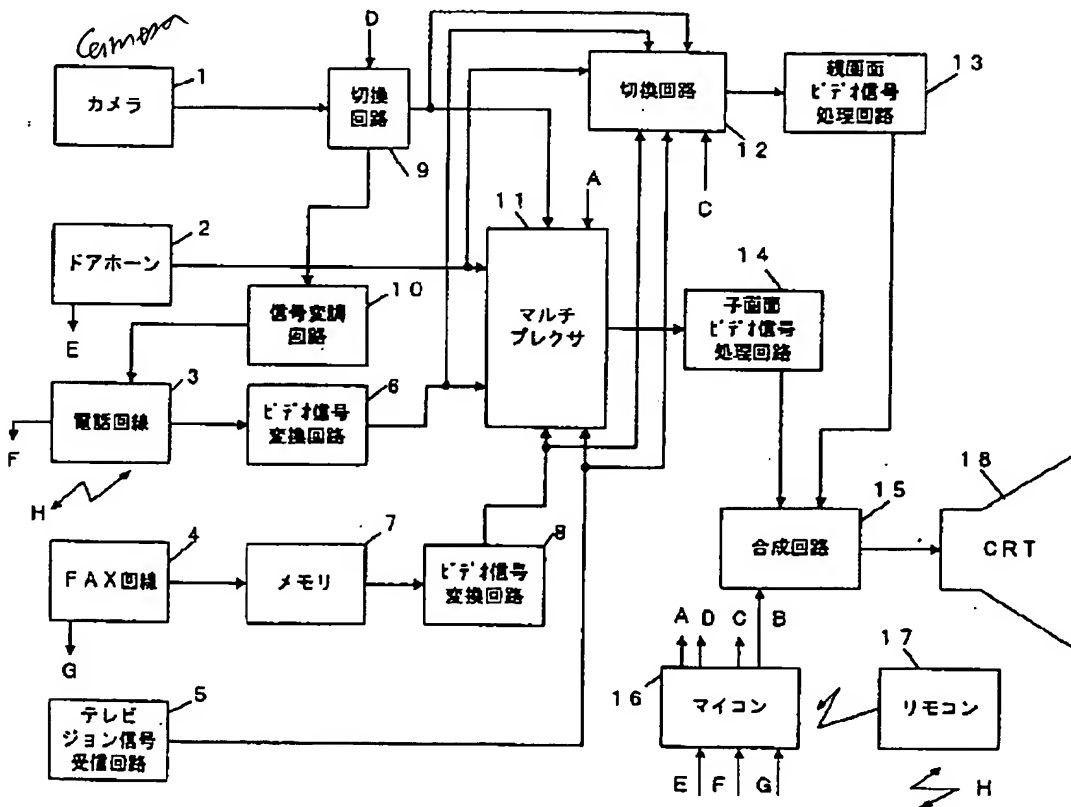
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DRAWINGS

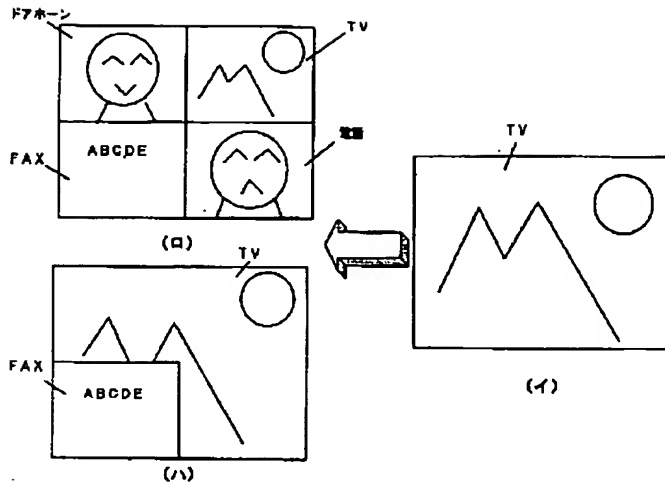
[Drawing 1]



[Drawing 2]

17: remote control
2: door horn

5: TV receiving circuit
7: memory
4: Fax unit
9/10: Mod. circuit
12: Channel over circuit
11: multiplexer
15: Synthesis circuit
16: microcomputer



[Translation done.]